

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
3 March 2005 (03.03.2005)

PCT

(10) International Publication Number
WO 2005/018683 A3

(51) International Patent Classification⁷: **A61B 17/11**,
17/115, A61L 31/16, 27/54

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(21) International Application Number:
PCT/US2004/016363

(81) Designated States (*unless otherwise indicated, for every
kind of national protection available*): AE, AG, AL, AM,
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,
ZW.

(22) International Filing Date: 24 May 2004 (24.05.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/473,185 23 May 2003 (23.05.2003) US
60/523,908 20 November 2003 (20.11.2003) US
60/525,226 24 November 2003 (24.11.2003) US
60/526,541 3 December 2003 (03.12.2003) US

(84) Designated States (*unless otherwise indicated, for every
kind of regional protection available*): ARIPO (BW, GH,
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,
FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI,
SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ,
GW, ML, MR, NE, SN, TD, TG).

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Published:

— with international search report

(88) Date of publication of the international search report:
11 August 2005

*For two-letter codes and other abbreviations, refer to the "Guid-
ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.*

(54) Title: ANASTOMOTIC CONNECTOR DEVICES

(57) Abstract: Anastomotic connector devices are provided which release a therapeutic agent. The therapeutic agent may be an anti-scarring agent that inhibits stenosis caused by the presence of the anastomotic connector device.



WO 2005/018683 A3

INTERNATIONAL SEARCH REPORT

International Application No

PCT/US2004/016363

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 A61B17/11 A61B17/115 A61L31/16 A61L27/54

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 A61B A61L

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2003/065344 A1 (KIRSCH WOLFF M ET AL) 3 April 2003 (2003-04-03) page 1, paragraph 9 - paragraph 10 claims 9,10	1,3-5, 22-24, 58-60, 90,91
X	US 2002/099393 A1 (FLEISCHMAN SIDNEY D ET AL) 25 July 2002 (2002-07-25) page 4, paragraph 70 page 8, paragraph 94 ----- -/-	1,3,11, 12, 15-17, 20, 22-25, 58,91, 101,102

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents :

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"&" document member of the same patent family

Date of the actual completion of the international search

16 February 2005

Date of mailing of the international search report

18.05.2005

Name and mailing address of the ISA

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INTERNATIONAL SEARCH REPORT

International Application No

PCT/US2004/016363

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2002/133183 A1 (LENTZ DAVID CHRISTIAN ET AL) 19 September 2002 (2002-09-19) page 13, paragraph 131 - page 16, paragraph 141 figures 10-13	1,3,11, 15, 22-26, 58-60, 90,91
Y	page 4, paragraph 53 claim 1 figure 23	1-81, 101-117
X	----- US 2003/009182 A1 (WHAYNE JAMES G) 9 January 2003 (2003-01-09) paragraph [0083]	1,3,11, 12,15, 17,20, 22-25, 58-60, 90,91
X	----- US 2003/065345 A1 (WEADOCK KEVIN) 3 April 2003 (2003-04-03) page 14, paragraph 141 - page 16, paragraph 151 figures 10-13	1,3,11, 15, 22-25, 58-60, 90,91
Y	page 5, paragraph 70 claim 1 figure 23	1-81, 101-117
X	----- US 2003/065346 A1 (EVENS CARL J ET AL) 3 April 2003 (2003-04-03) page 14, paragraph 141 - page 16, paragraph 151 figures 10-13	1,3,11, 15, 22-25, 58-60, 90,91
Y	page 5, paragraph 70 claim 18 figure 23	1-81, 110-117
X	----- US 2003/065377 A1 (DAVILA LUIS A ET AL) 3 April 2003 (2003-04-03) page 14, paragraph 133 - page 17, paragraph 150 figures 10-13	1,3,11, 15, 22-26, 58-60, 90,91
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INTERNATIONAL SEARCH REPORT

International Application No.

PCT/US2004/016363

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P,X	WO 2004/017892 A (HSU, LI-CHIEN) 4 March 2004 (2004-03-04) page 5, paragraph 13 claims 1-3 -----	1,64,71
P,X	EP 1 386 624 A (CORDIS CORPORATION) 4 February 2004 (2004-02-04) column 11, line 21 - line 22 column 11, line 28 - line 40 -----	1,64-66, 70,71
P,X	WO 2004/014447 A (MEDTRONIC, INC) 19 February 2004 (2004-02-19) page 12, line 20 claim 29 -----	1,64,74, 75

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2004/016363

Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1-63 (part), 64-81, 101-117 (part)

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-63(part), 64-81, 101-117 (part)

An anastomotic coupling device comprising an anastomotic coupling device and an anti-scarring agent which is represented by a cell cycle inhibitor; wherein the agent is releasable from the device at a therapeutically effective concentration that inhibits stenosis

2. claims: 1-63 (part), 52-85, 101-117(part)

An anastomotic coupling device comprising an anastomotic coupling device and an anti-scarring agent which is represented by a heat shock protein 90 antagonist; wherein the agent is releasable from the device at a therapeutically effective concentration that inhibits stenosis

3. claims: 1-63 (part), 86-89, 101-116(part)

An anastomotic coupling device comprising an anastomotic coupling device and an anti-scarring agent which is represented by a pyrolidine antibiotic; wherein the agent is releasable from the device at a therapeutically effective concentration that inhibits stenosis

4. claims: 1-63(part), 90-96, 101-116

An anastomotic coupling device comprising an anastomotic coupling device and an anti-scarring agent which is represented by an immunomodulator; wherein the agent is releasable from the device at a therapeutically effective concentration that inhibits stenosis

5. claims: 1-63(part), 97-100, 101-117 (part)

An anastomotic coupling device comprising an anastomotic coupling device and an anti-scarring agent which is represented by an ionosine monophosphate dehydrogenase (IMPDH) inhibitor; wherein the agent is releasable from the device at a therapeutically effective concentration that inhibits stenosis

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US2004/016363

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 2003065344	A1	03-04-2003	WO 03028546 A2	10-04-2003
US 2002099393	A1	25-07-2002	US 2002013591 A1	31-01-2002
			US 2002173808 A1	21-11-2002
			US 2004068278 A1	08-04-2004
			EP 1235521 A2	04-09-2002
			WO 0141653 A2	14-06-2001
			US 2002173809 A1	21-11-2002
			US 2003167064 A1	04-09-2003
			US 6494889 B1	17-12-2002
			AU 761192 B2	29-05-2003
			AU 4561299 A	05-01-2000
			AU 4679499 A	30-12-1999
			AU 4821699 A	03-04-2000
			EP 1005294 A1	07-06-2000
			JP 2002518082 T	25-06-2002
			US 2002099394 A1	25-07-2002
			WO 9963910 A1	16-12-1999
			WO 0015144 A1	23-03-2000
			WO 9965409 A1	23-12-1999
			US 2002032462 A1	14-03-2002
			US 2003033005 A1	13-02-2003
			US 6887249 B1	03-05-2005
			US 6843795 B1	18-01-2005
US 2002133183	A1	19-09-2002	US 2002165608 A1	07-11-2002
			US 2001029351 A1	11-10-2001
			AU 9486901 A	08-04-2002
			CA 2424029 A1	04-04-2002
			EP 1322235 A1	02-07-2003
			JP 2004521668 T	22-07-2004
			WO 0226139 A1	04-04-2002
			US 2003065377 A1	03-04-2003
			US 2003065345 A1	03-04-2003
			US 2003065346 A1	03-04-2003
			AU 1129902 A	08-04-2002
			AU 1132102 A	08-04-2002
			CA 2424038 A1	04-04-2002
			CA 2424049 A1	04-04-2002
			CA 2450962 A1	03-01-2003
			EP 1322351 A1	02-07-2003
			EP 1322342 A1	02-07-2003
			EP 1406682 A1	14-04-2004
			JP 2004524868 T	19-08-2004
			JP 2004518458 T	24-06-2004
			JP 2004531331 T	14-10-2004
			WO 0226281 A1	04-04-2002
			WO 0226271 A1	04-04-2002
			WO 03000308 A1	03-01-2003
			US 2004102758 A1	27-05-2004
			US 2002111590 A1	15-08-2002
			US 2002051730 A1	02-05-2002
			AU 7730201 A	11-04-2002
			AU 9316101 A	08-04-2002
			CA 2357881 A1	29-03-2002
			CA 2425753 A1	04-04-2002
			CN 1477980 A	25-02-2004
			EP 1192957 A2	03-04-2002

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US2004/016363

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2002133183 A1		EP 1335761 A1	20-08-2003
		JP 2002238994 A	27-08-2002
		WO 0226280 A1	04-04-2002
		US 2004197372 A1	07-10-2004
		US 2002094440 A1	18-07-2002
		CA 2408754 A1	22-11-2001
		JP 2004504078 T	12-02-2004
		WO 0187375 A1	22-11-2001
		US 2005004663 A1	06-01-2005

US 2003009182 A1	09-01-2003	CA 2450407 A1	16-01-2003
		EP 1408851 A2	21-04-2004
		JP 2004534585 T	18-11-2004
		WO 03005698 A2	16-01-2003
		US 2003023252 A1	30-01-2003
		US 2004049212 A1	11-03-2004
		US 2003009183 A1	09-01-2003

US 2003065345 A1	03-04-2003	US 2002133183 A1	19-09-2002
		CA 2445654 A1	21-04-2004
		EP 1421909 A1	26-05-2004
		JP 2004275733 A	07-10-2004
		AU 9486901 A	08-04-2002
		CA 2424029 A1	04-04-2002
		EP 1322235 A1	02-07-2003
		JP 2004521668 T	22-07-2004
		WO 0226139 A1	04-04-2002
		US 2003065377 A1	03-04-2003
		US 2003065346 A1	03-04-2003

US 2003065346 A1	03-04-2003	US 2002133183 A1	19-09-2002
		CA 2445655 A1	21-04-2004
		EP 1413256 A1	28-04-2004
		JP 2004141660 A	20-05-2004
		AU 9486901 A	08-04-2002
		CA 2424029 A1	04-04-2002
		EP 1322235 A1	02-07-2003
		JP 2004521668 T	22-07-2004
		WO 0226139 A1	04-04-2002
		US 2003065377 A1	03-04-2003
		US 2003065345 A1	03-04-2003

US 2003065377 A1	03-04-2003	US 2002133183 A1	19-09-2002
		AU 2003203891 A1	20-11-2003
		CA 2426974 A1	30-10-2003
		EP 1360967 A1	12-11-2003
		JP 2004000586 A	08-01-2004
		US 2003204168 A1	30-10-2003
		AU 9486901 A	08-04-2002
		CA 2424029 A1	04-04-2002
		EP 1322235 A1	02-07-2003
		JP 2004521668 T	22-07-2004
		WO 0226139 A1	04-04-2002
		US 2003065345 A1	03-04-2003
		US 2003065346 A1	03-04-2003

WO 2004017892 A	04-03-2004	US 2004037886 A1	26-02-2004
		AU 2003258331 A1	11-03-2004

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US2004/016363

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 2004017892 A		WO 2004017892 A2	04-03-2004
EP 1386624 A	04-02-2004	US 2003204168 A1	30-10-2003
		AU 2003220715 A1	19-02-2004
		CA 2436342 A1	30-01-2004
		EP 1386624 A1	04-02-2004
		JP 2004130101 A	30-04-2004
WO 2004014447 A	19-02-2004	AU 2003262674 A1	25-02-2004
		CA 2494186 A1	19-02-2004
		WO 2004014447 A1	19-02-2004
		US 2004047911 A1	11-03-2004